GRAFIK Eye®

3000/4000 SERIES
SPECIFICATION GUIDE



SPECIFICATION GUIDE TABLE OF CONTENTS			
2-3	General Specifications/ Sources/ Scenes/ Zones	11	Software
4-5	GRAFIK Eye 3000 Series Preset Dimming Control Diagram Model Specifications	12-13	Accessory Controls
6-7	GRAFIK Eye 4000 Series Preset Dimming Control Diagram	14-15	Dimensions/ Mounting
8-9	Dimming Panel Model Specifications	16-17	Dimming System Specifications
10	GRAFIK Eye 3500/ 4500 Models	18-19	Colors, Finishes, Ordering Information and Warranty

GRAFIK Eye®

GRAFIK Eye® preset dimming controls increase the functionality, flexibility and beauty of any space, from the simplest residential applications to the most complex commercial applications.

One standard product family handles virtually any job. GRAFIK Eye 3000 Series controls operate via integral dimmers for residential and smaller commercial applications. GRAFIK Eye 4000 Series controls are used with separate Dimming Panels for high performance architectural applications. Both specification grade, GRAFIK Eye 3000 & 4000 Series controls offer consistent, convenient lighting scene recall at the touch of a button.

Lutron offers a choice of GRAFIK Eye Models to control 2 to 64 zones of lighting along with Accessory Controls to expand the system's capabilities for such functions as light sequencing, lockout features and much more. Consult your Lutron representative for the right GRAFIK Eye lighting control solution for your needs.

General Specifications

Fade Times:
Adjustable for each scene from immediate to 60 minutes.

Power Failure Memory:
Lights automatically return to prior levels; scenes and fade times are saved.

Input Power:
50/ 60 Hz from conventional utility distribution systems or from a generator-based system.

Energy Management / Savings:
GRAFIK Eye lighting controls offer longer bulb life for incandescent sources, energy savings and increased productivity.

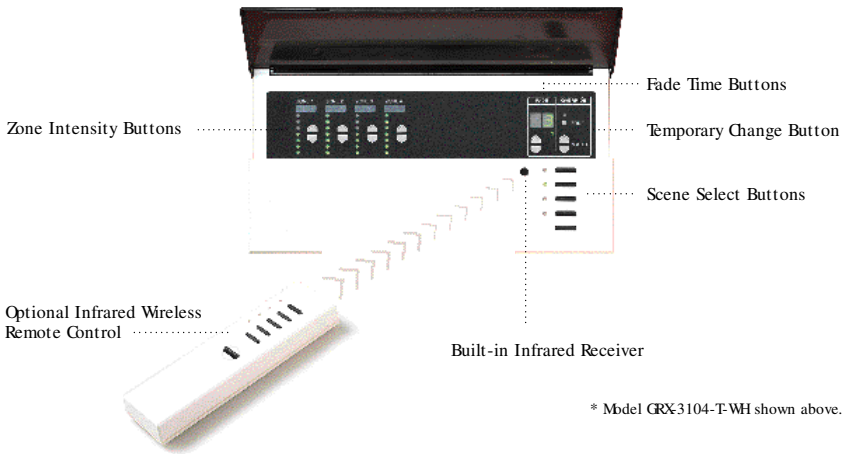
Integration:
Interfaces are available for seamless integration with audio/ visual, security and other equipment. Visit the Lutron website, www.lutron.com, for detailed application notes.

SOURCES			
			Incandescent/ Tungsten
	Neon/ Cold-Cathode		Electronic Transformer Low Voltage
	T-12, T-8, T-5, plus T-4 Compact Fluorescent		Magnetic Transformer Low Voltage

GRAFIK Eye controls work with above sources for intensity changes (either directly or through interfaces) that are smooth and continuous. GRAFIK Eye Dimmers are electronically assigned to the appropriate load types/ dimming curve (including non-dim) and can be reassigned at any time. Contact Lutron for information on other lighting sources.

GRAFIK Eye
PRESET LIGHTING CONTROL

GRAFIK Eye controls allow the user to create and recall custom preset scenes for common room activities. Scenes are set by adjusting the lighting zones (a light or group of lights controlled together within a room or space) to create the perfect combination for any activity. Switch between scenes at the touch of a button.

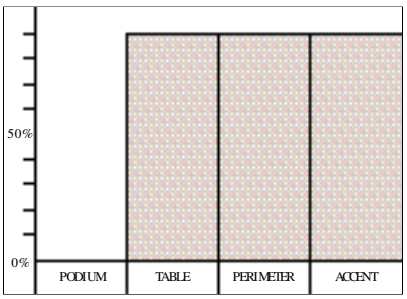


* Model GRX-3104-T-WH shown above.

SCENES	ZONES

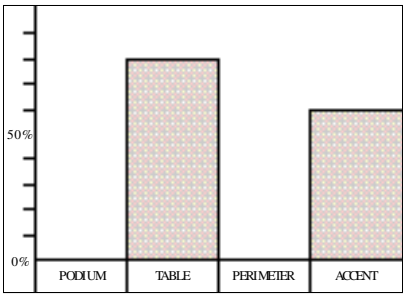
1. Set Up
   Lights are on for room set up before use. Table, perimeter and accent lighting are all preset at 90 percent for maximum viewing and energy savings. Podium lights are off.





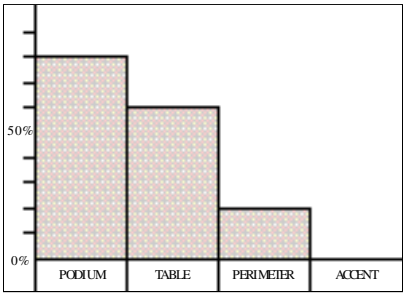
2. General Meeting
   Once participants are assembled, this general meeting setting highlights the working area with table lighting at 80 percent and accent lights set at 60 percent while podium and perimeter lights are completely off.





3. A/V Presentation
   For A/V presentations, this setting allows the room to be darkened without sacrificing work lighting at the table. Podium lighting is at 80 percent, table lighting is at 60 percent, perimeter lighting is at 20 percent while accent lighting is off to darken the background.





4. Unoccupied/Night light
   Lights are set at low levels when room is not in use. Podium, table and accent lights are all off, with perimeter lighting set at 50 percent.



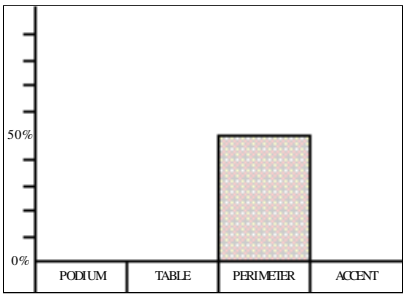


Photo location: Executive Board Room, Manulife Financial, Toronto, Ontario

Models 3100 & 3500 for residential and smaller commercial applications have integral power dimmers with line voltage outputs.

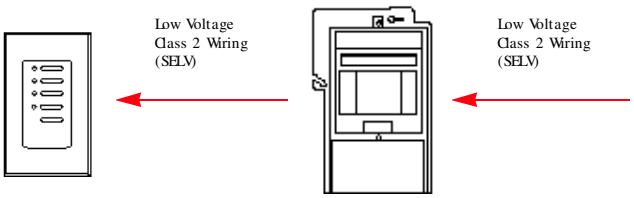
3000 Series—Specification Grade
4 Scenes and 2, 3, 4, or 6 Zones, expandable to 16 scenes and 48 zones.

- Can link up to 8 GRAFIK Eye Control Units (8 addresses) for up to 48 zones
- Up to 16 Accessory Controls for total of 24 control points
- Built-in Infrared Receiver/Optional Infrared Wireless Remote Control
- Can increase individual zone capacities to 30,000 W/VA at 120V/277V (For detailed information, see page 13.)

■ Power Interfaces are necessary for Fluorescent (GRX-FDBI) and Electronic Low Voltage (GRX-ELVI). Power Interfaces are not required with HP 2•4•6 Dimming Module. (For detailed Power Interface information, see page 13.)

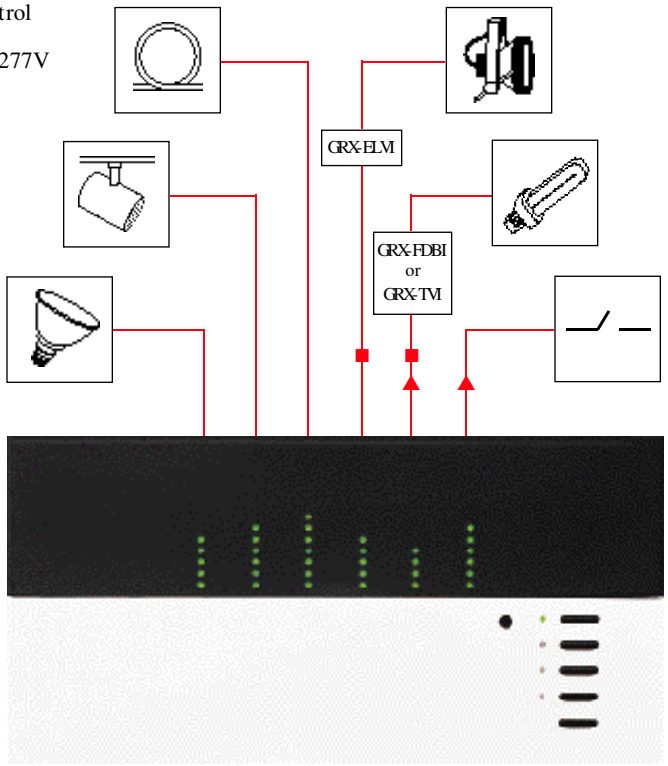
▲ GRX-TVI– Provides a 0-10V output that conforms to BSI 929. Can be used to switch all lighting loads, including metal halide and electronic ballasts. If switching other non-lighting loads, use a relay by others.

Note: System requires interface at 230V.



Accessory Controls-
A full line of wallstation controls (up to 16 per system) available to expand system capabilities (For more detailed information, see page 12.) (1)

Interface Accessories-
Provide inputs and outputs for seamless integration with additional equipment (For more detailed information, see page 13.)



Model shown: GRX-3106-T-WH

Power In
Line Voltage

(1) Use of more than 3 Accessory Controls and Low Voltage Interface Accessories per GRAFIK Eye 3000 Series Control Unit requires addition of Part No. GRX-12VDC Class 2 transformer (120V AC: 12 VDC). Consult factory for 220-240V applications.

GRAFIK Eye Models 3100 & 3500 Control Unit Specifications

GRAFIK EYE MODEL NO.	NO. OF ZONES	WALLBOX SIZE*	TOTAL WATTS/VA 120V	100V (-JA)	220-240V (-AU)	230V CE (-CE)
GRX-3102- GRX-3502-	2	2 Gang†† (2) SB-1G	1200	1000	1600	1600†
GRX-3103- GRX-3503-	3	3 Gang†† (3) SB-1G	1500	1250	2400	2300†
GRX-3104- GRX-3504-	4	4 Gang (1) SB-4G	2000	1600	3000	2300
GRX-3106- GRX-3506-	6	4 Gang (1) SB-4G	2000	1600	3000	2300

* Mount in standard multiple gang wallbox, 2.75" deep minimum, 3.5" deep recommended.
* Available from Lutron as Part No. listed.
† (1) No. SB-4G required.
†† CE requires SB-4G (4 gang) wallbox.

Note: To build a complete Model No., see page 18.

Global Product Offerings

Volts	Zone Capacity
120V	6.7A/800WA
100V	6.0A/600W/VA
220-240V	5.0A/1200W/VA
230V	3.4A/800W/VA

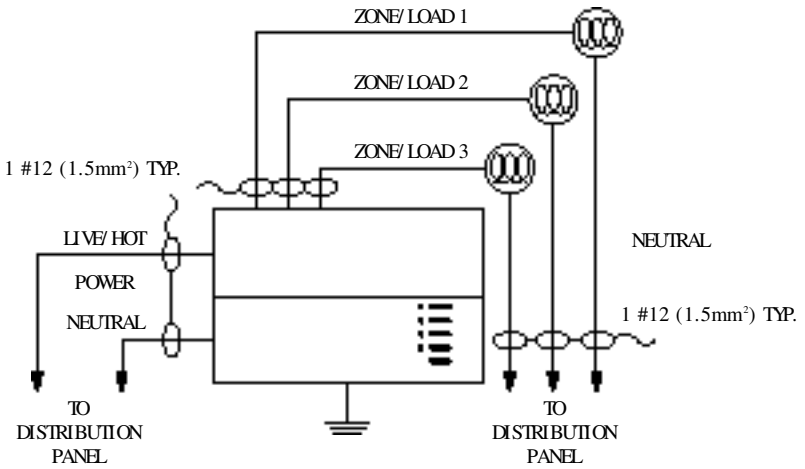
Note: GRAFIK Eye Control Units have both a maximum capacity limit per zone and a maximum capacity limit per unit. Each zone cannot exceed the total Watts/VA in the chart at left, and each unit cannot exceed the total Watts/VA outlined in the chart on page 4. However, the maximum unit capacity can be allocated among each individual zone in the unit. For example, on a 3-zone unit at 120V with a maximum zone capacity of 800W and a maximum unit capacity of 1500W, some zones will not reach the individual zone maximum because the total unit maximum cannot exceed 1500W. Check total unit maximums before ordering Model Nos.

SYSTEM WIRING

Diagram at right illustrates basic system wiring for GRAFIK Eye 3000 Series Control Units.

Note: For wiring multiple Control Units, Interfaces, and Accessory Controls, system wiring should be: Low Voltage Class 2 (SELV) 4-wire daisy chain of two No. 18 (1.0mm²) twisted pairs (4 wires); two Belden 9740, or one Liberty LU02PSH18EX-GRN. For complete system wiring information, see 3000 Series Installer's Guide, P/N 032-042.

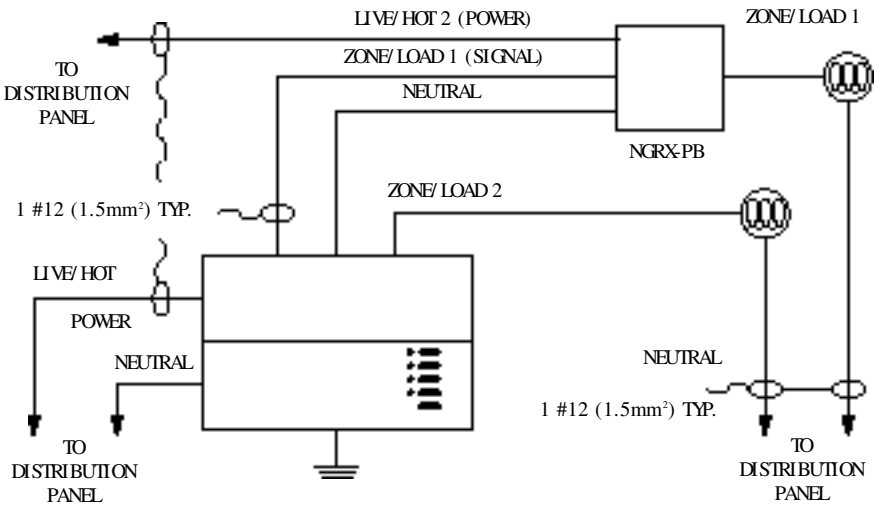
For CE Wiring, consult factory.



POWER BOOSTER AND INTERFACE WIRING

For GRAFIK Eye 3000 Series controls only, Lutron Power Boosters can be added to increase zone capacities. Consult factory for other load types (e.g. HID). (For 120V, Power Interfaces are not required with HP 2•4•6 Dimming Module.)

For other Interface Wiring information, consult installation information shipped with product.



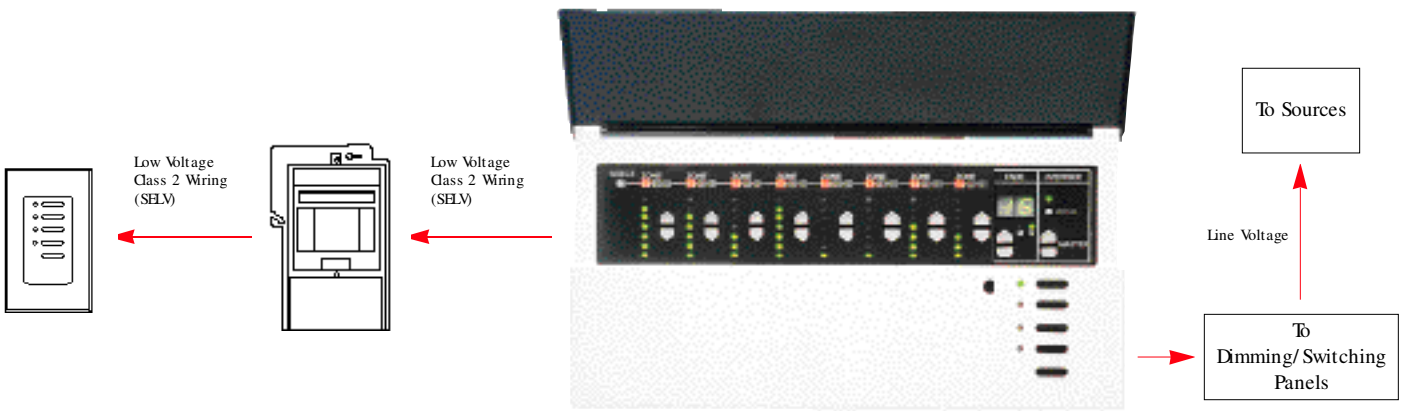
Models 4100 & 4500 combine with GRAFIK Eye Dimming Panels for higher performance architectural control applications.

4000 Series—Specification Grade
4 Scenes and 2, 3, 4, 6, 8, 16 or 24 Zones: expandable to 16 scenes and 64 zones.

- Can link up to 8 GRAFIK Eye Control Units (8 addresses) for up to 64 zones
- Use with GRAFIK Eye Dimming or Switching Panels (32 panels, 768 circuits maximum)
- Up to 16 Accessory Controls for total of 24 control points
- Built-in Infrared Receiver/Optional Infrared Wireless Remote Control

System Wiring:
Low Voltage Class 2 (SELV) 4-wire daisy chain of two No. 12 (4.0mm²) wires and one No. 18 (1.0mm²) twisted shielded pair (Beldon 9461, Alpha 2211) 2000 ft. (610 m) maximum. Available in one cable (Liberty LUCOM 12/22-RBL). For complete system wiring information, see 4000 Series Installer's Guide, P/N 032-036.

Note: For CE Wiring, consult factory.



Model shown: GRX-4124-T-WH

Accessory Controls-
A full line of wallstation controls (up to 16 per system) available to expand system capabilities (For more detailed information, see page 12.)

Interface Accessories-
Provide inputs and outputs for seamless integration with additional equipment (For more detailed information, see page 13.)

GRAFIK Eye Models 4100 & 4500 Control Unit Specifications

GRAFIK EYE MODEL NO.	NO. OF ZONES	WALLBOX SIZE*
GRX-4102- GRX-4502-	2	2 GANG (2) SB-1G
GRX-4103- GRX-4503-	3	3 GANG (3) SB-1G
GRX-4104- GRX-4504-	4	4 GANG (1) SB-4G
GRX-4106- GRX-4506-	6	4 GANG (1) SB-4G
GRX-4108- GRX-4508-	8	4 GANG (1) SB-4G
GRX-4116-† GRX-4516-	16	4 GANG (1) SB-4G
GRX-4124-†† GRX-4524-	24	4 GANG (1) SB-4G

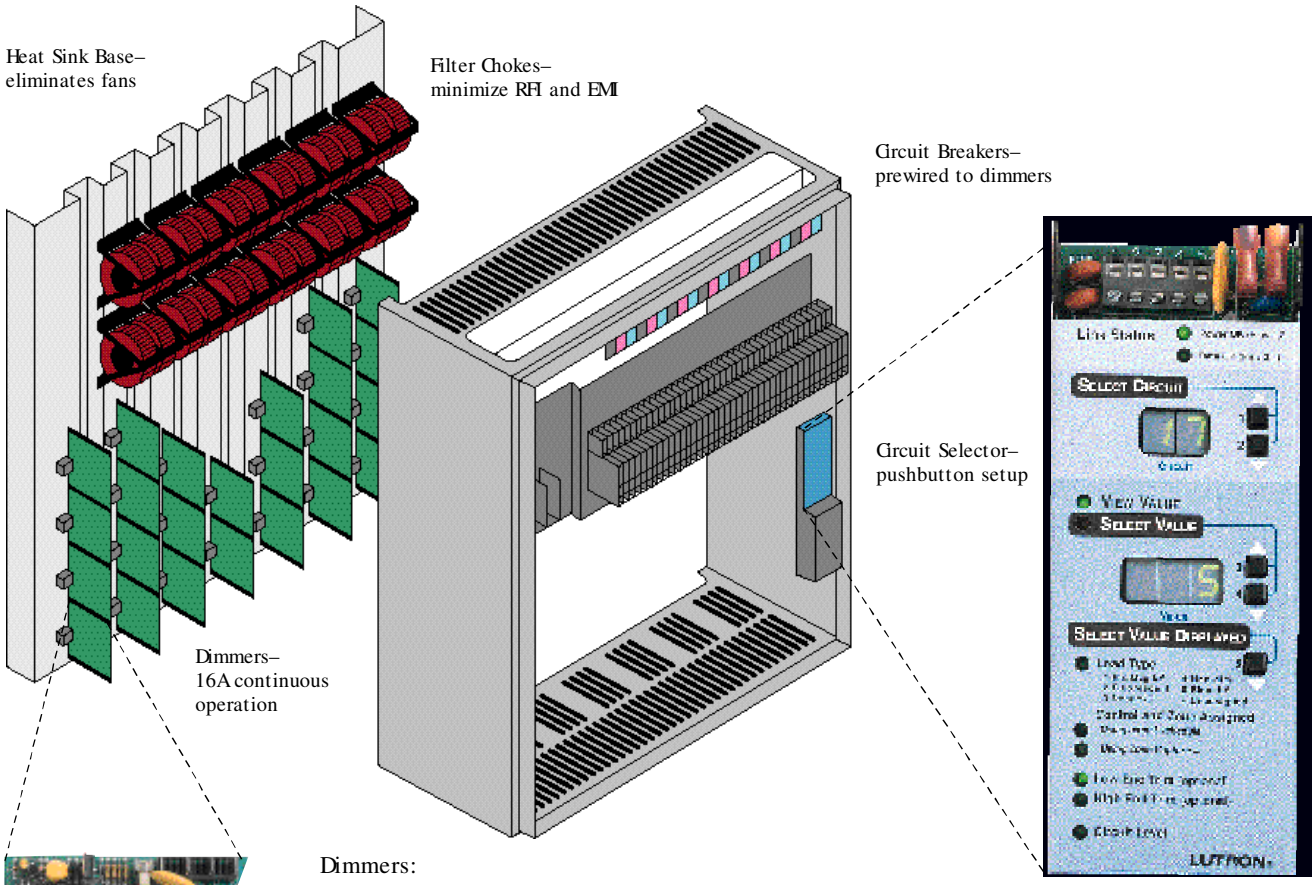
* Mount in standard multiple gang wallbox, 2.75" deep minimum, 3.5" deep recommended.
* Available from Lutron as Part No. listed.
† 4116/4516 requires 2 addresses.
†† 4124/4524 requires 3 addresses.

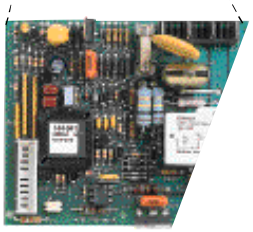
Note: To build a complete Model No., see page 18.

DIMMING PANELS

Lutron Dimming Panels are used with GRAFIK Eye 4000 Series controls for architectural lighting control of premiere spaces and complete buildings.

- Prewired. Panels are prewired and ready for installation. Dimmer modules are plug-in design, 20A per circuit (16A continuous), 120-277 VAC, 50/60 Hz, and compensate for line voltage changes. Note: 100 VAC available for Japan.
- Normal/Emergency. All Panels have an internal switch for normal or normal/emergency (non-essential or essential) power operation.
- No Ventilation Fans. Unique ribbed base conducts heat out of panel via convection cooling.
- Quick Shipment. Panels are pre-engineered for quick shipment. Panels can be surface- or flush-mounted (GP Panel is surface-mount only).
- Premium Temperature Margins. Panels operate at a minimum of 20 degrees Celsius below the power conducting component temperature rating. Electronic components live twice as long for every 10 degrees Celsius below the rating at which they operate both increasing semiconductor reliability and ensuring the system's design life span.





Dimmers:

- Handles all GRAFIK Eye lighting sources
- Automatically sets Square Law dimming curves for smooth, linear control when load types are selected (at circuit selector)
- High-end trim easily adjusted to extend Incandescent/Tungsten and Low Voltage lamp life, and for energy savings
- Employs plug-in design, 20A per circuit (16A continuous), 100-277 VAC, 50/60 Hz, and compensates for line voltage changes

Circuit Selector:
Fast Easy Pushbutton Setup

- Assigns load types to circuits
- Assigns circuits to zones
- Simplifies system setup
- Makes field changes easy
- Flashes individual circuits for visual identification

GP DIMMING PANELS

Model Prefix	No. of Circuits	Voltage	Feed Type*	Main Lugs Only (ML) Main Breaker (M) Isolator Switch (IS)	Branch Circuit Breaker Capacity (Amps)
120–127 VOLTS					
GP	3-	120	4	M-	20
GP	3-	120	4	M-	15
GP	4-	120	FT	ML-	—
GP	8-	120	2	ML-	20
GP	8-	120	2	ML-	15
GP	8-	120	3	ML-	20
GP	8-	120	3	ML-	15
GP	8-	120	4	ML-	20
GP	8-	120	4	ML-	15
GP	12-	120	3	ML-	20
GP	12-	120	3	ML-	15
GP	12-	120	4	ML-	20
GP	12-	120	4	ML-	15
GP	16-	120	4	ML-	20
GP	16-	120	4	ML-	15
GP	16-	120	4	MI25-	20
GP	16-	120	4	MI100-	15
GP	20-	120	4	ML-	20
GP	20-	120	4	ML-	15
GP	24-	120	4	ML-	20
GP	24-	120	4	ML-	15
GP	24-	120	4	MI75-	20
GP	24-	120	4	MI25-	15
GP	72-	120	4	ML-	20
GP	72-	120	4	ML-	15
220–240 VOLTS					
GP	3-	230	4	M-	10CE†
GP	4-	230	FT	ML-	CE†
GP	8-	230	2	IS-	10CE†
GP	8-	230	4	IS-	10CE†
GP	12-	230	4	IS-	10CE†
GP	16-	230	4	IS-	10CE†
GP	20-	230	4	IS-	10CE†
GP	24-	230	4	IS-	10CE†
GP	3-	240	4	M-	16AU
GP	4-	240	FT	ML-	AU
GP	8-	240	2	IS-	16AU
GP	8-	240	4	IS-	16AU
GP	12-	240	4	IS-	16AU
GP	16-	240	4	IS-	16AU
GP	20-	240	4	IS-	16AU
GP	24-	240	4	IS-	16AU
GP	72-	240	4	ML-	16AU
277 VOLTS					
GP	3-	277	4	M-	20
GP	4-	277	FT	ML-	—
GP	8-	277	2	ML-	20
GP	8-	277	4	ML-	20
GP	16-	277	4	ML-	20
GP	16-	277	4	MI25-	20
GP	72-	277	4	ML-	20

† Panels meet CE requirements.

Popular models that meet most applications are listed; consult your Lutron representative for additional models.

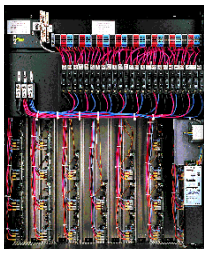
How to Build a Model No.: Take the model prefix (i.e. GP, LP, XP), add the number of circuits, the voltage, feed type, panel type and breaker size (as appropriate). For example: GP3-1204M-20 is a three circuit, 120/208V, 3φ, 4 wire feed, main lugs only, 20A branch breakers panel.

LP DIMMING PANELS

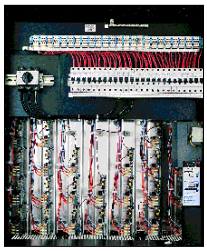
Model Prefix	No. of Dimmer Modules	No.of Switch Legs	Voltage	120/208V 3φ, 4 Wire Feed	Main Lugs Only (ML)	Branch Circuit Breaker Capacity (Amps)
120-127 VOLTS						
LP	1/	4-	120	2	M-	20
LP	1/	4	120	2	M-	15
LP	2/	8-	120	3	M-	20
LP	2/	8-	120	3	M-	15
LP	3/	12-	120	4	M-	20
LP	3/	12-	120	4	M-	15
LP	4/	16-	120	4	ML-	20
LP	4/	16-	120	4	ML-	15
LP	5/	20-	120	4	ML-	20
LP	5/	20-	120	4	ML-	15
LP	6/	24-	120	4	ML-	20
LP	6/	24-	120	4	ML-	15
LP	7/	28-	120	4	ML-	20
LP	7/	28-	120	4	ML-	15
LP	8/	32-	120	4	ML-	20
LP	8/	32-	120	4	ML-	15
230 VOLTS						
LP	1/	4-	230	2	M-	16†
LP	2/	8-	230	2	M-	16†
LP	3/	12-	230	4	M-	16†
LP	4/	16-	230	4	ML-	16†
LP	5/	20	230	4	ML-	16†
LP	6/	24	230	4	ML-	16†
LP	7/	28	230	4	ML-	16†
LP	8/	32	230	4	ML-	16†
240 VOLTS						
LP	1/	4	240	2	M-	16
LP	2/	8	240	2	M-	16
LP	3/	12	240	4	M-	16
LP	4/	16	240	4	ML-	16
LP	5/	20	240	4	ML-	16
LP	6/	24	240	4	ML-	16
LP	7/	28	240	4	ML-	16
LP	8/	32	240	4	ML-	16

XP SWITCHING PANELS

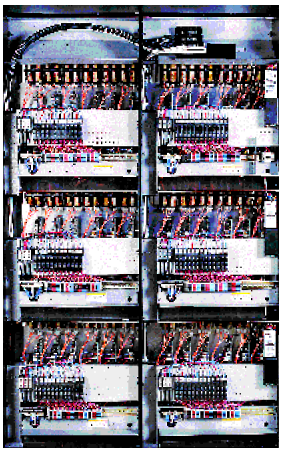
Model Prefix	No. of Switching Circuits	Control Circuit Power Voltage	Feed Through Only (FT)	Main Lugs Only (ML)
120-127 VOLTS				
XP	4-	120	FT	ML-
XP	8-	120	FT	ML-
XP	12-	120	FT	ML-
XP	16-	120	FT	ML-
XP	24-	120	FT	ML-
XP	32-	120	FT	ML-
XP	48-	120	FT	ML-
220-240 VOLTS				
XP	4-	230	FT	ML-
XP	8-	230	FT	ML-
XP	12-	230	FT	ML-
XP	16-	230	FT	ML-
XP	24-	230	FT	ML-
XP	32-	230	FT	ML-
XP	48-	230	FT	ML-
277 VOLTS				
XP	4-	277	FT	ML-
XP	8-	277	FT	ML-
XP	12-	277	FT	ML-
XP	16-	277	FT	ML-
XP	24-	277	FT	ML-
XP	32-	277	FT	ML-
XP	48-	277	FT	ML-



GP 24 Panel
without cover



GP 24 (CE) Panel
without cover



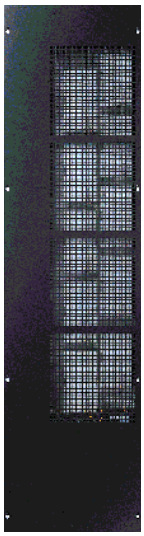


Mini GP Panel
with cover

GP 72 Panel
without cover

GP Dimming Panels

Offered in three cabinet sizes, from 3 to 72 circuits, prewired for 120-127, 220-240, 230 or 277 volts. Field wiring is similar to wiring in distribution panel. Meets CE requirements for Europe. (See page 15 for specific dimensions and mounting instructions.)

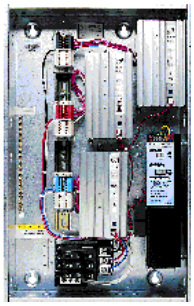






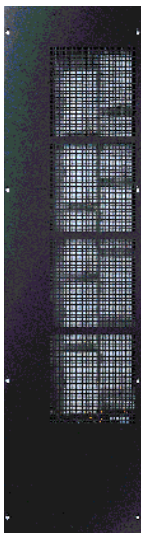
Mini LP Panel
with and without cover

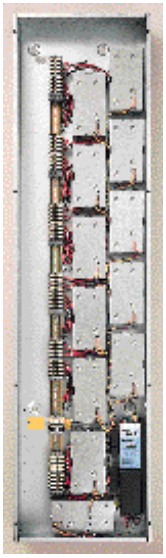
LP Panel
with and without cover



LP Dimming Panels

For handling numerous small loads. Panels have from 1 to 8 four-circuit Dimming Modules (4-32 switch legs, 8-16 KW). Panels control Fluorescent and Electronic Low Voltage sources through Power Interface Accessories. (See page 15 for specific dimensions and mounting instructions.)

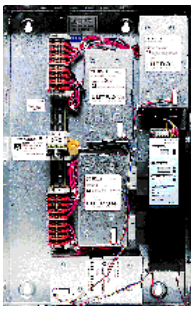






Mini XP Panel
with and without cover

XP Panel
with and without cover

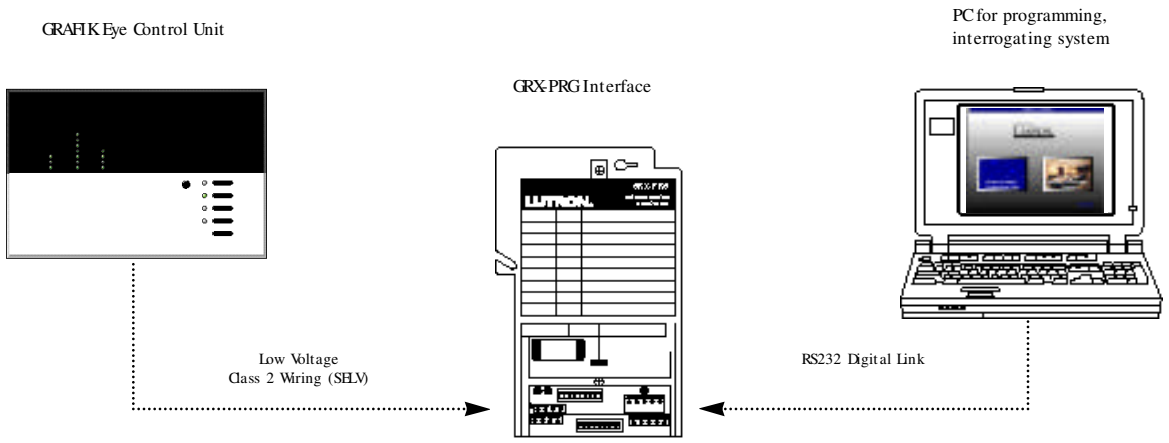


XP Switching Panels

For Low Voltage switching control of large numbers of circuits. Panels have 1 to 12 four-circuit switching modules with individual circuit relays with mechanical latching switch contacts. (See page 15 for specific dimensions and mounting instructions.)

GRAFIK Eye®	3500/4500 MODELS	Set presets manually for simple setup or use GRAFIK Eye LIAISON™ software for repeatability and convenience.

New GRAFIK Eye® models 3500/4500 provide increased functionality to the GRAFIK Eye 3000/4000 series. The new models offer greater flexibility, repeatability, convenience and systems integration. With GRAFIK Eye 3500/4500, the user now has the ability to perform a variety of programming functions and interrogate the system for feedback via RS232 or a Windows™- based software program—GRAFIK Eye LIAISON (optional). The new models maintain a common hardware architecture with 3100/4100 models and are retro-compatible with existing systems.



Features of 3500/4500 Models:

1%. All GRAFIK Eye Control Units have an easy-to-use bar graph to set (and see) light levels. The 3500/4500 Model now adds the ability to set lights in 1% increments—a precision that is not available with any other wallbox-based product. Levels for similar rooms can be set identically using the 1% increments. These levels can be saved easily either manually or via GRX-PRG Interface and a PC.

Lockout. GRAFIK Eye products ship with standard intuitive approach to setting light levels. Some spaces may require tamper protection for preset scenes or complete unit lockout. Four options, each more secure than the previous, are available to protect/lockout units.

Non-dim. GRAFIK Eye products have always had various Square Law curves for different sources. Now there are two non-dim options—one for controlling lighting and one for controlling a separate relay for a projection screen or other audio/visual equipment.

Additional Features:

- Program system data at remote location, prior to installation if necessary.
- Set up system manually, then interrogate system to retrieve program values.
- Set up subsequent systems using data obtained from manual setup.
- Save preset and communication assignments.
- Integrate with other A/V equipment or building management systems.
- Create temporary scenes (not stored in the GRAFIK Eye Control Unit).

Note: For specific model offerings, see page 4 for GRAFIK Eye 3000 and page 6 for GRAFIK Eye 4000).

Software for Operation and Setup

GRAFIK Eye LIAISON Software Features

Windows™ based (3.1 or 95) programming utility for GRAFIK Eye 3500/4500 to program the following:

- Scenes – intensities and fade times—in 1% increments
- Load types – includes non-dim options
- Temporary Mode setting (allows user to make lighting changes without changing stored presets)
- Control unit communication assignments
- Temporary, on-line scenes



❮ Specify Control Units, choose load types, and create preset scenes for a system all via Windows™ based LIAISON software program.

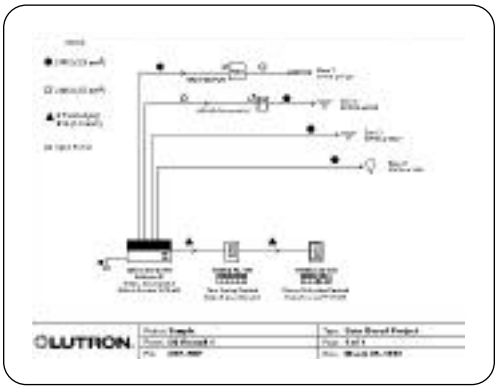
Software for Design

GRAFIK Eye DESIGNER Software Features

Windows™ based (3.1 or 95) design software to create a one-line diagram, bill of materials and specification for any project:

- Designs control systems 2 to 4 times faster
- Automates and standardizes the specification process
- Integrates with AutoCad® and Microsoft® Access™ database formats
- Accommodates circuit- or zone-based designs
- Prepares job-specific documentation
- Links to LIAISON

Consult your Lutron representative for more information about DESIGNER.



❮ Provides load schedule and Accessory Controls information to create a one-line diagram, bill of materials, and specification for any project.

Use of more than 3 Accessory Controls and Low Voltage Interface Accessories per GRAFIK Eye 3000 Series Control Unit requires addition of Part No. GRX-12VDC Class 2 transformer (120V AC: 12 VDC). Consult factory for 220-240V applications.

Class 2 (SELV) Low Voltage Accessory Controls (for GRAFIK Eye 3000 and 4000 Series)

	DESCRIPTION	FUNCTIONS	REF. P/N†
	GRX-IT, GRX-8IT Handheld Infrared Wireless Remote Control Transmitters	Controls 4 (or 8) scenes plus master raise/lower and off. Recalls scenes or fine tunes light levels. Turns lighting on or off. Note: Not included in 16 accessory maximum.	362-592
	NTGRX-2B-SL Two-Button Entrance Control	Turns lighting (scene 1) on or off. Selects 2 scenes (either 1/off, 9/10 or 13/14), partition opened/closed, panic station, sequencing, raise/lower.	362-933, 362-593
	NTGRX-4S, NTGRX-4B Scene Selection Control Four-Button Control	Activates scenes 1-4; master raise/lower and off. Recalls or fine tunes light levels. Activates scenes 1-4, 5-8, 9-12, or 13-16; operates one or more GRAFIK Eye units.	362-596 362-934
	GRX-4S-DW Architrave™ Door Jamb Control	Activates scenes 1-4; master raise/lower and off. Recalls or fine tunes light levels. Ideal for door jambs. Operates one or more GRAFIK Eye units.	362-597
	NTGRX-4M Master Control	Activates scene 1 or off for up to eight GRAFIK Eye units, and all on or all off.	362-598
	NTGRX-4PS Partition Control	Provides 4 buttons to operate selected GRAFIK Eye units independently, or in combination to reflect partition status.	362-599
	NTGRX-4S-IR Infrared Receiver/Scene Selection Control	Activates scenes 1-4 and off by touch-buttons or infrared transmitters (above). Recalls or fine tunes light levels. Activates scenes 1-4, 5-8, 9-12, or 13-16; operates one or more GRAFIK Eye units.	362-602
	NTGRX-SI4S-IR Infrared Receiver/Scene Control/Switch Interface	Provides access to scenes 1-4 or 5-8 based on external contact closure (example: to control partitioned spaces).	362-782

† GRAFIK Eye Specification Submittal Sheets are available for downloading/printing on Lutron's website, www.lutron.com.

Low Voltage Interface Accessories (for GRAFIK Eye 3000 and 4000 Series)

	DESCRIPTION	FUNCTION	REF. P/N
	GRX-AV Contact Closure Interface	Two-way interface between GRAFIK Eye controls and contact-closure devices (A/V systems, timeclocks, security systems, occupant sensors, etc.).	362-600
	GRX-RS232 RS232 Interface	Integrates GRAFIK Eye controls with user-supplied PC or digital A/V equipment.	362-756
	GRX-ATC RS232/Timeclock Interface	Integrates GRAFIK Eye controls with user-supplied PC or digital A/V equipment. Features built-in astronomic timeclock—4 schedules/60 events per schedule.	362-812
	GRX-PRG 3500/4500 Programmer Interface	For use with GRX-3500/4500. Integrates GRAFIK Eye controls with user-supplied PC or digital A/V equipment. Features built-in astronomic timeclock (same as above). Provides access to advanced user-programmable features.	366-579
	GRX-CIR Ceiling Mounted Infrared Receiver	Provides remote infrared wireless control to GRAFIK Eye units. Functions with handheld transmitters. Activates scenes 1-4, 5-8, 9-12, or 13-16 via handheld transmitter. Operates one or more GRAFIK Eye units.	362-601

Line/Mains Voltage Power Boosters and Interface Accessories (for GRAFIK Eye 3000 Series only)

	NGRX-PB Power Booster	Increases single zone load capacity for incandescent, magnetic low voltage, neon/cold-cathode sources. 1920W per zone @120V, 2400W @240V, 1200W flush mount (with face plate), 1840W surface mount (without face plate) @ 240V for CE.	362-603
	GRX-FDBI Fluorescent Power Interface	Single zone interface to dim or switch Lutron electronic dimming ballasts. 16A per zone @ 120V, 10A @ 240V.	362-622
	GRX-ELVI Electronic Low Voltage Power Interface	Single zone interface to dim electronic transformer supplied low voltage lighting. 1000W @ 120V, 1200W @ 240V, 1000W @ 230V for CE.	362-635
	GRX-TVI Phase Control to 0-10V Ballast Interface	Provides 0-10V control (BSI 929) and ballast switching capabilities in one; allows 120V fluorescent controls the ability to control 0-10V ballasts that reside in an industrial power grid (for example, 277V); provides switching relays that can handle the in-rush current of a circuit of ballasts.	366-551
	HP 2•4•6 Dimming Module	Increases single zone load capacity to 2000 W/VA (HP-2), 4000 W/VA (HP), 6000 w/VA (HP-6), all @120V. For incandescent, magnetic and electronic low voltage, neon and fluorescent sources. Up to 5 modules can be daisy chained for greater capacity (30,000 W/VA @120V, also 240A @277V for fluorescent). Note: Not for 100, 220-240V.	362-604

Other Accessories

	NTGRX-1S On/Off Doorway Control	Line/main voltage control. Switches lighting (scene 1) on or off from a remote wall location. (Functions as three-way switch.)	360-178

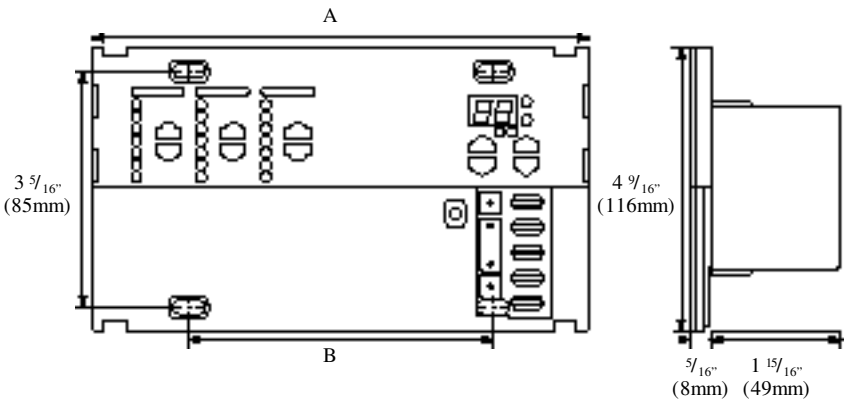
Note: Also available: A Lockable Cover which prevents tampering with GRAFIK Eye controls and accessories and permits infrared operation—translucent black—Model No. GRX-___-GLC (Insert 1, 2, 3, or 4 in Model No. for wallbox gang size); and Matching Receptacles, 15A and 20A 120V conventional and GFCI, with matching telephone and cable TV jacks.

Control Unit

For specific Model No. in series, place a 1 or 5 in the blank space, i.e. GRX-3102.

MODEL NO.	A	B
GRX-3_02† GRX-4_02†	4-15/16” (123mm)	1-13/16” (46mm)
GRX-3_03† GRX-4_03†	6-11/16” (168mm)	3-5/8” (92mm)
GRX-3_04 GRX-4_04 GRX-3_06 GRX-4_06 GRX-4_08 GRX-4_16 GRX-4_24	8-5/16” (208mm)	5-7/16” (138mm)

Main Control Unit (GRX-3000, GRX-4000)
Mount in standard 2-, 3- or 4-gang wallbox (3.5” deep, 89 mm).

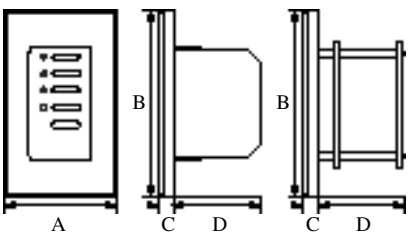


† For CE requirements, Control Unit dimensions are 8 5/16” (208 mm) x 5 7/16” (138 mm) and must mount in standard 4-gang wallbox.

Accessories

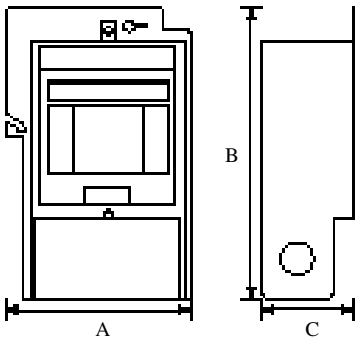
FIG.	MODEL NO.	A	B	C	D
1	NTGRX-1S NTGRX-2B-SL	2-3/4” (70mm)	4-9/16” (116mm)	5/16” (8mm)	1-3/8” (35mm)
	NTGRX-4S, 4B, 4SIR	2-3/4” (70mm)	4-9/16” (116mm)	5/16” (8mm)	13/16” (21mm)
	NTGRX-4M	2-3/4” (70mm)	4-9/16” (116mm)	5/16” (8mm)	13/16” (21mm)
	NTGRX-4PS	2-3/4” (70mm)	4-9/16” (116mm)	5/16” (8mm)	13/16” (21mm)
2	GRX-AV GRX-RS232 GRX-ATC GRX-PRG	5” (127mm)	7-3/4” (197mm)	2-1/2” (64mm)	—
3	GRX-4S-DW	1-3/4” (44mm)	4-1/2” (114mm)	1/4” (6mm)	1-3/8” (35mm)
4	NGRX-PB GRX-FDBI/ELVI	4-1/2” (114mm)	4-9/16” (116mm)	11/16” (17mm)	1-7/8” (48mm)

FIG. 1



Wallbox Control Panels (NTGRX-1S, -2B-SL, -4S, -4B, -4SIR, -4M, and -4PS)
Mount in single-gang wallbox. (1) See mounting notes below.

FIG. 2

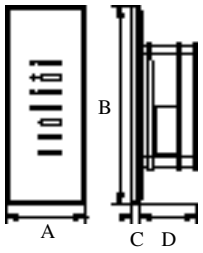


Interface Control (GRX-AV, -ATC, -PRG, -RS232)
Mounts on 4” -square utility box. (3)

Mounting Notes: (1) Mounts in standard single-gang wallbox 2.75" deep minimum, 3.5" deep recommended (Lutron Part No. SB-1G). (2) Lutron supplies backbox (Part No. 241-399). (3) Mounts on standard 4"x4" junction box (Lutron Part No. 241-496). (4) Mounts in standard two-gang wallbox; 2.75" deep minimum, 3.5" deep recommended. (Two each Lutron Part No. SB-1G).

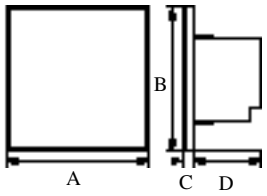
Accessories (continued)

FIG. 3



Architrave Door Jamb Control (GRX-4S-DW)
Mounts directly in door jamb. (2)

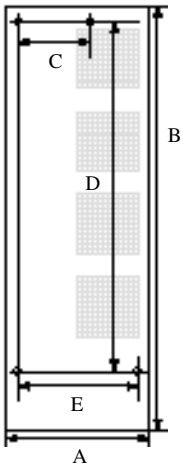
FIG. 4

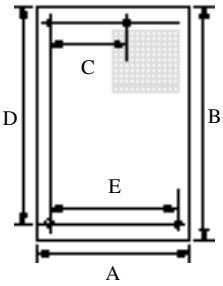


Power Booster (NGRX-PB), Fluorescent Interface (GRX-FDBI), Electronic Low Voltage Interface (GRX-ELVI), Mount in two-gang wallbox. (4)

XP Switching/LP Dimming Panels

FIG. 1





XP Panel (24, 32 and 48 switching circuits)
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 362-849.

LP Panel (16-32 switching legs)
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 366-552.

FIG. 2

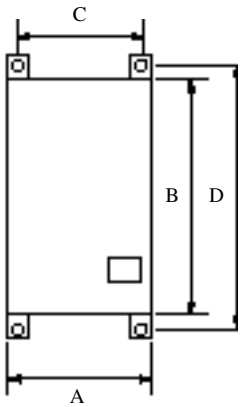
Mini XP Panel (4, 8, 12, and 16 switching circuits)
Wall-mounted; allow 12" (305 mm) clearance above and below panel. Reference publication P/N 366-529.

Mini LP Panel (4, 8, and 12 switching legs)
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 366-530.

FIG.	MODEL NO.	A	B	C	D	E	DEPTH
1	XP, LP	14.375" (37cm)	59" (150cm)	8" (20cm)	41.75" (106cm)	11" (28cm)	4" (10cm)
2	Mini XP, Mini LP	14.375" (37cm)	26" (66cm)	8" (20cm)	21.5" (55cm)	10.75" (28cm)	4" (10cm)

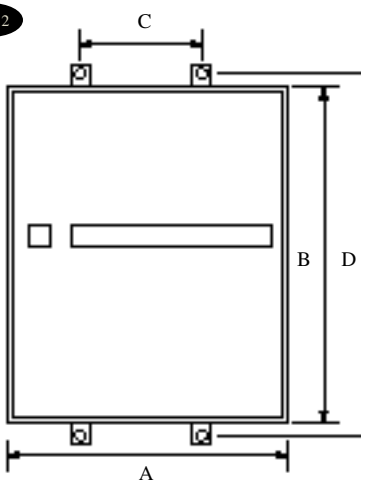
Dimming Panels

FIG. 1



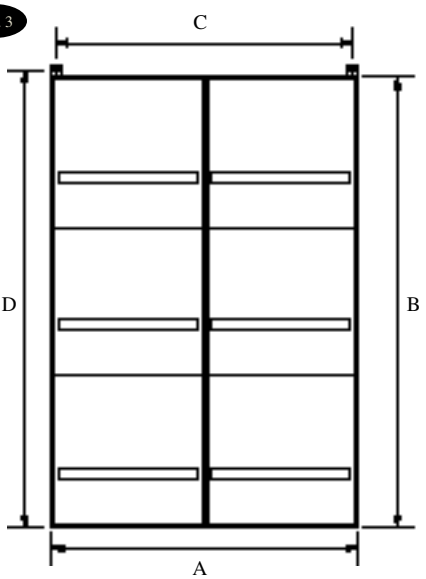
Mini Panel, GP3 and GP4 (3 and 4 circuits)
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 362-643.

FIG. 2



GP8, GP12, GP16, GP20, and GP24 Panels
(8, 12, 16, 20 and 24 circuits)
Wall-mounted: allow 12" (305 mm) clearance above and below panel. Reference publication P/N 362-605.

FIG. 3



GP72 Panel
Handles up to 3 feeds. Floor-standing: allow 12" (305 mm) clearance above panel. Reference publication P/N 362-788.

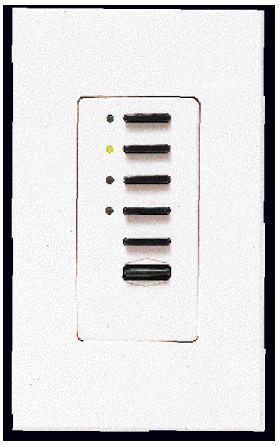
FIG.	MODEL NO.	A	B	C	D	DEPTH
1	GP3, GP4	11" (28cm)	18" (46cm)	9.625" (25cm)	19.5" (50cm)	6.25" (16cm)
2	GP8, 12, 16, 20 and 24	27.6" (70cm)	32.9" (84cm)	11.9" (30cm)	35" (89cm)	12" (31cm)
3	GP72	52.3" (133cm)	86" (218cm)	50" (127cm)	87" (220cm)	14" (36cm)

LUTRON Quality Systems Registered to ISO 9001

Safety standards listed above apply to one or more products in the GRAFIK Eye product line. Consult factory for specific information.

General Specifications

- The entire lighting control system shall be U.L., CSA or CE marked as appropriate. Manufacturer shall maintain ISO 9001 certification. Dimming system shall be covered by a minimum one-year warranty from time of purchase.
- Manufacturer shall be capable of providing on-site service support within 24 hours anywhere in the continental U.S.A., and within five business days anywhere in the world, except where special visas are required.
- Premium Temperature Margins: Panels operate at a minimum of 20 degrees Celsius below the power conducting component temperature rating. Electronic components live twice as long for every 10 degrees Celsius below the rating at which they operate both increasing semiconductor reliability and ensuring the system's design life span.





Accessories

- Four-Scene Control(s) shall be capable of recalling any one of four scenes, master raise/lower and off. Control shall provide access for up to 16 scenes.
- Wireless Infrared Transmitter(s) shall be capable of recalling any one of four preset scenes and off. In addition, a master raise/lower shall be provided. The transmitter shall be manufactured by the dimming system manufacturer. The range of the transmitter to any single receiver shall be at least 50 feet.
- System should employ common architecture for products, accessories and user interfaces.

Control Unit

Preset dimming control shall incorporate an airgap switch relay which shall be accessible without removing the faceplate.

- Preset dimming control shall meet ANSI/IEEE Std. C62.41©1980, tested to withstand voltage surges of up to 6000V and current surges of up to 200A without damage.
- Preset dimming control shall provide power failure memory.
- Faceplate shall attach using no visible means of attachment.
- Controls shall incorporate built-in wide angle Infrared Receiver, providing control via a separate Wireless Remote Control Transmitter from up to 50 feet away.
- Programming of preset scenes shall be accomplished without the use of an ENTER or STORE button.

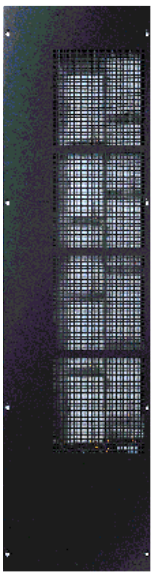
Ballasts

- Ballasts shall withstand 4000 volt surges as specified in ANSI C62.41.
- Ballasts shall preheat lamp cathodes before applying arc voltage to ensure rated lamp life is not diminished.
- Ballasts shall internally limit in-rush current to not exceed three amps at 277 volts or seven amps at 120 volts to avoid computer problems, nuisance circuit breaker trips, and control contact malfunctions.

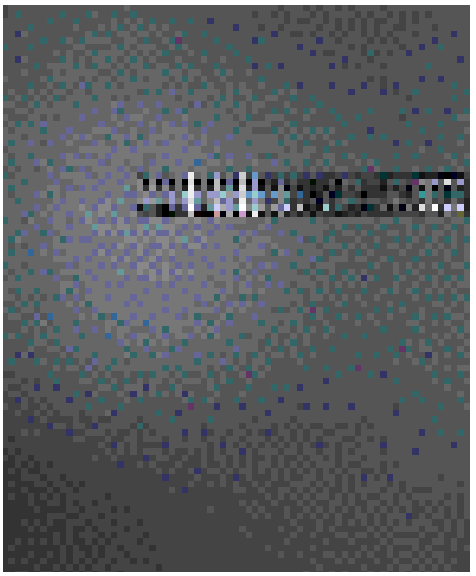


Installation

- Wiring from preset dimming control to Dimming Panel and Accessory Controls shall be Low Voltage Class 2 Wiring (SELV).







XP Switching Panel

- Relays shall be rated for 16 Amps, continuous duty, for the following load types: Incandescent/Tungsten, Electronic and Magnetic Low Voltage, Neon/Cold-Cathode, high intensity discharge, high in-rush Electronic and Magnetic Fluorescent lamp ballasts.
- Load shall be switched in a manner that ensures no arcing will occur at the mechanical contacts when power is applied to the load circuit.

Dimming Panels: LP/GP

- Panels shall be completely prewired by the manufacturer. The contractor shall be required to provide input feed wiring, load wiring, and control wiring.
- Panels shall be cooled via free-convection, unaided by fans, and capable of continuous operation to all of these section specifications within an ambient temperature range of 0°C (32°F) to 40°C (104°F). Panel shall provide capability to electronically assign each circuit to any zone in the dimming system. Panels using mechanical switches, rewiring, or EPROMS shall not be acceptable.
- One type of Dimming Module/Card shall be used for all sources. Systems requiring different types of modules or modular dimming cards shall not be acceptable.
- A positive air gap relay shall be employed with each dimmer to ensure that the load circuits are open when the "off" function is selected at a control station.
- Dimmers shall operate the following sources/load types with a smooth continuous Square Law dimming curve: Incandescent, Tungsten and Magnetic Low Voltage Transformer, Electronic Low Voltage Transformer, Fluorescent Electronic Dimming Ballasts (Ballasts for Fluorescent fixtures must be Lutron Hi-lume "FDB" or "Eco-10" series), Neon and Cold-Cathode.
- Dimmers shall also be capable of operating sources on a non-dim basis. Dimmers shall be electronically assigned to the appropriate load type/dimming curve and can be reassigned at any time. Universal-type dimmers that do not adjust the dimming curve shall not be acceptable.

GRAFIK Eye Accessories and Control Units are available in a variety of colors and finishes. Custom paint matching and personalized engraving of Accessories and Control Units also are available. Consult your Lutron representative to find the right custom solution for your needs.

Engraving is available in the following typestyles:

HELVETICA BOLD
ROMAN BLOCK
GOTHIC

Engraving is available in the following colors:

White, Beige, Black, Brown, Gray

Controls are available in the following colors:

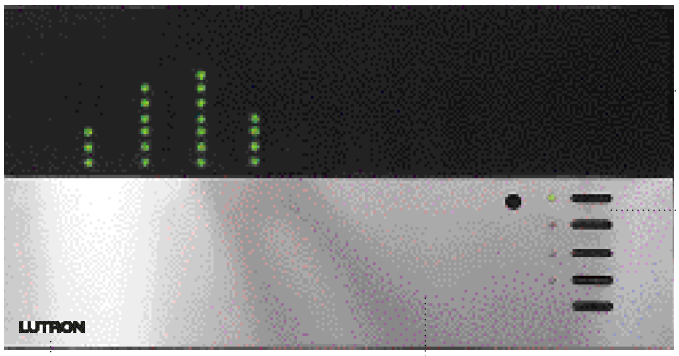
Control Unit
Cover—Opaque to match base color (A) or translucent black (T).

Base—White (WH), beige (BE), ivory (IV), brown (BR), black (BL), gray (GR), bright brass (BB), bright chrome (BC), satin brass (SB).

Accessories
Accessory Controls, receptacles and jacks are available in white (WH), beige (BE), ivory (IV), brown (BR), black (BL), and gray (GR).

Architrave™ Controls are available in bright brass (BB), and white (WH).

Handheld transmitters and ceiling receivers are available in white (WH).



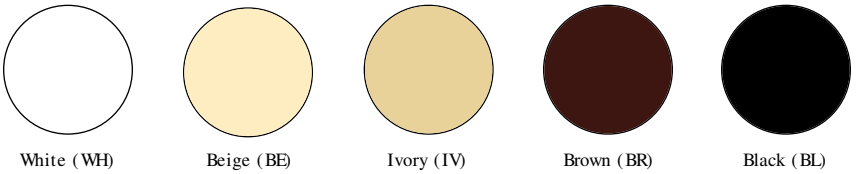
Choice of translucent or opaque cover.

Engrave scene name beneath each button, i.e. Room Setup, General Meeting, A/V Presentation, etc.

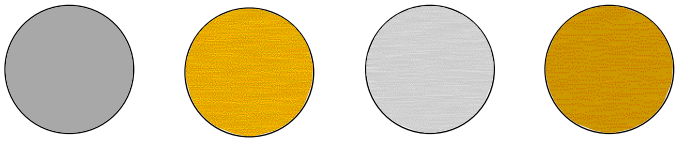
Your company name or logo here.

Choice of six distinct colors and three metallic/metal finishes.

* Example: Model GRX-3104-T-BC shown above.



White (WH) Beige (BE) Ivory (IV) Brown (BR) Black (BL)



Gray (GR) Bright Brass (BB) Bright Chrome (BC) Satin Brass (SB)

Global Product Offerings:

Add suffix to all Model Nos. when ordering for global power requirements:

Volts	Model Suffix
120V	(none)
100V	–JA
220-240V	–AU
230V	–CE

Ordering Information:

Follow the examples below when creating Model Nos. to order product:

- To order a four-zone Control Unit with a bright brass (BB) base and a translucent (T) cover in 120V, the model number would be GRX-3104-T-BB.
- To order a six-zone Control Unit with a white cover (A) to match a white (WH) base in 230V, the model number would be GRX-3106-A-WH-CE.

Consult your Lutron representative for more details about custom finishes and engraving or call the Lutron Hotline at 1.800.523.9466.

Lutron is the World's Leading Manufacturer of Lighting Controls

A dedication to quality and a commitment to product innovation have made Lutron the world's leading manufacturer of solid state controls to manage the visual environment. Lutron was among the first companies to be registered to ISO 9001, the broadest international quality standard.

Lutron products are available in voltages, frequencies and capacities for residential, commercial and institutional applications, and they meet or exceed applicable national and international product safety standards.

Customers in over 65 countries depend on Lutron controls for reliability, design elegance, and superior performance. For the name of your nearest representative, distributor or sales agent, call any of our worldwide offices.

Warranty

Lutron warrants each new unit, for a period of one year from the date of shipment, to be free from defects in materials or workmanship under conditions of normal use and specified ambient temperature when installed and operated under Lutron product specifications and in accordance with the applicable National Electrical Code and Safety Standards of Underwriters Laboratories. Lutron shall, at its option, repair or replace any defective unit which in its opinion, has not been improperly installed, wired, insulated, used or maintained, provided, however, that Lutron shall not be required to remove, install or re-install any defective unit and provided that Lutron is promptly notified of said defect within the aforementioned warranty period. The foregoing warranty and optional remedies are exclusive and, except for the foregoing warranties, THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY NOR OF ANY OTHER TYPE. In no event shall Lutron or any other seller be liable for consequential or special damages, nor for any repair work undertaken without its prior written consent, nor shall Lutron's liability on any claim for damages arising out of or connected with the manufacture, sale, installation, delivery of use of said unit ever exceed the price paid therefore.

These products may be covered by one or more of the following U.S. patents: 4,797,599; 4,803,380; 4,893,062; 5,030,893; 5,191,265; 5,430,356; 5,463,286; 5,633,540; DES 308,647; DES 310,349; DES 311,170; DES 311,382; DES 311,485; DES 311,678; DES 313,738; DES 335,867; DES 344, 264; and corresponding foreign patents. Other U.S. and foreign patents may be pending.

Lutron reserves the right to make product improvements or changes without prior notice. Lutron, GRAFIK Eye, Eco-10, Hi-lume, Serena and Architrave are trademarks of Lutron Electronics Co., Inc. AutoCAD is a trademark of Autodesk, Inc. Microsoft, Access and Windows are trademarks of Microsoft Corp.
© 1997 Lutron Electronics Co., Inc.

Consult your Lutron representative for the latest product information or to find the right combination of Control Units, Accessories and Dimming Modules for a specific job.

If you need more detailed information about GRAFIK Eye controls or other Lutron lighting control products, dial into our FAX-On-Demand line through our toll-free hotline or visit us at our website.

Hotline: 1.800.523.9466

Website: www.lutron.com

World Headquarters
Lutron Electronics Co., Inc.
7200 Suter Road
Coopersburg, PA 18036-1299 U.S.A.
Toll Free: 800-523-9466
(U.S.A., Canada & Caribbean)
Tel: 610-282-3800;
International 1-610-282-3800
Fax: 610-282-3090;
International 1-610-282-1243

European Headquarters
Lutron EA Ltd.
Lutron House
6 Sovereign Close
Wapping
London, E1-9HW, England
Freephone: 0800 282107 (U.K.)
0130-8151-34 (Germany)
Tel: 0171-702-0657;
International 44-171-702-0657
Fax: 0171-480-6899;
International 44-171-480-6899

Asian Offices
Lutron Asuka Corporation K.K.
Madre Matsuda Bldg., 3F
4-13 Kioi-cho
Chiyoda-Ku, Tokyo 102, Japan
Toll Free: (0120) 083417 (Japan)
Tel: 03-3234-1486;
International 81-3-3234-1486
Fax: 03-3234-0167;
International 81-3-3234-0167

Hong Kong Sales Office
Tel: 2593-1119;
International 852-2593-1119
Fax: 2593-1197;
International 852-2593-1197

UAE, Dubai Sales Office
Tel/Fax: 04-440-206;
International 971-4-440-206

LUTRON Quality Systems
Registered to ISO 9001

Safety standards listed above apply to one or more products in the GRAFIK Eye product line. Consult factory for specific information.

LUTRON®

www.lutron.com

© 1997 Lutron Electronics Co., Inc.
Printed in U.S.A 9/97 P/N 366-580

For help with applications, call:
800-523-9466 (U.S.A., Canada & Caribbean);
(1) 610-282-3800 (Other Areas)